ADVANCED MANAGEMENT

JANUARY 1956
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A Panel Discussion

The Homemaker — Executive-At-Large
Catherine R. Morhard & William C. Morhard

Labor Looks At Industrial Engineering
David Lasser

Better Eyes For The Job
James R. Gregg, O.D.

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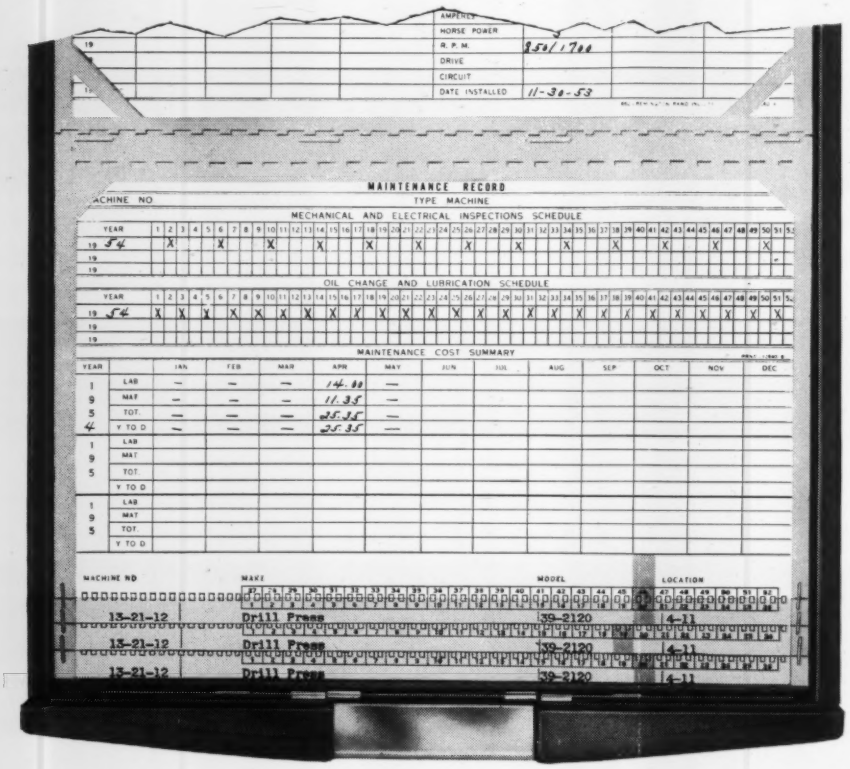

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"Through research, discussion, publication, and other appropriate means to conduct and promote scientific study of the principles governing organized effort in industrial and economic life . . . for the general betterment of society . . ."
SAM Constitution

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One World or Two—or None?

MAN'S emotional machinery is such that he instinctively dislikes people, customs, institutions, or beliefs that are radically different from his own. As the degree of difference is stepped up, dislike tends in extreme cases to become hatred for another person, another church, another country, another language. Another way of life can become a powerful emotional stimulus, one minute toward hatred then maybe toward fear, then back again toward hatred.

There is really very little difference between fear and hatred except in what we tend to do with them—evasion in the one case, attack in the other. Both hatred and fear are now well-established as chemical poisons in the body if continued long at a high level. And in this time in which we now live, because of the shrinkage of the world, emotional tensions tend to be continuous over a long period. In a simpler time, for example, there were only about 300,000 Indians on this continent. The spaces were so wide that tribes with different languages and social systems might avoid contact for long periods; or, if they fought it out, the war might be brief.

We no longer have the kind of world in which conflicts between cultures can be diluted by geographical distance. The event, the speech, the policy decision that becomes a cause of tension can occur in New York in the morning, and produce an effect in Peiping or Singapore that can heat emotions in San Francisco the same afternoon.

We cannot hope to escape awareness, contact, or consequence. Peoples and leaders who differ from us radically are in the headlines every morning and "under foot" every day. We fear them, we hate them, or at least we hate their ways, yet we cannot escape them. There are no islands or valleys of escape today, even though we try to create these islands and valleys by ignoring the problem and living in an isolationist cocoon of imagined safety.

But America has burst the cocoon, and is forced by her power and responsibilities to circulate freely and widely in the world today. When we cannot ignore, we naturally wish to destroy those who threaten us, yet that escape also is closed. We dare not attack them, nor they us.

Does this mean that we must live the rest of our lives angry and scared amid a rising tide of ulcers, coronaries, and complexes? The answer is YES, unless—

The "unless" requires American leadership to practice the most difficult of all intellectual disciplines. This discipline calls for studying what we dislike; for understanding what we do not condone. It requires that we think objectively about value systems — our own and others; that we study cultures we dislike, and yet still cherish on the one hand and reject on the other.

As if that were not difficult, we have an added requirement that we remain loyal in every act to our own value system while we study it, and that we effectively resist the rejected value system while we study it.

The only thing that can stop a thinker is a deeper thinker. American leaders, more specifically industrial management, must do the deeper thinking. Whether we like it or not, industrial and business management make up the principal thought leaders and policy settlers in America today. The leaders of all our other professions are greatly influenced and frequently controlled by the way business management thinks. This is a sobering thought and we must all search actively for clues as to how we can help lead this nation and its allies in the free world.

Our religious heritage should help us here. The present century is somewhat like the first century when the cultures of Rome, Greece, and Judea were locked in deadly combat. The foundation of Western civilization was laid by Him who said, "Render unto Caesar the things that are Caesar's, and unto God those that are God's." "Seek the truth and the truth shall make you free." "Verily the time cometh and now is when all men shall worship God, neither in this mountain nor in that, but in spirit and in truth."

Partisanship and fanaticism are the deadliest diseases today, even though they be partisan and fanatical for our own way of life. The partisan Hebrews, Romans, and Greeks of that earlier day only made the matter worse. They even crucified those who refused to be partisan. We are today forced, by the responsibility of our power and the challenge of our problem, to struggle to deeper profundity of study and higher reaches of spirituality. Unless we can climb this spiritual Mt. Everest, there will be neither one world, nor two — there will be none.

If we can climb it, we shall indeed have established, in the language of the Philadelphia convention, "a government to which the wise and just for all time may repair." S.A.M. chapters, by studying the local business implications of international stresses and the international impact of local political movements, can measurably contribute to "peace on earth and good-will among men" for 1956. ■

F. F. BRADSHAW

Will our economy rise to even greater heights this year? This panel discussion, arranged by the S.A.M. Kansas City Chapter in December, 1955, presents an over-all view of current conditions which may affect business in 1956, and reports specific prospects in banking, steel and retailing, followed by general discussion.

The Economic Outlook For 1956

Panel Moderator:

Charles E. Gilliland
Dean, School of Business
University of Kansas City

Participants:

F. C. Herbster
Division Manager
Sheffield Steel Company
Kansas City

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President
City National Bank
and Trust Company
Kansas City

Robert H. Laws
S.A.M. Economics Director
New York City

Herbert H. Wilson
President
Emery, Bird & Thayer
Kansas City

Panel Moderator and Participants: (Left to Right): F. C. Herbster, Charles E. Gilliland (Moderator), R. Crosby Kemper, Herbert H. Wilson, and Robert H. Laws.

INTRODUCTORY REMARKS

by Charles E. Gilliland, Moderator

PREDICTION in the social sciences is particularly difficult. Perhaps the attempt to predict the state of the economy in 1956, the subject of our discussion, is the most complicated task of all. Who really knows what the economic future has in store? On what basis can we speculate about it? It is certain that none of us is given power to *know* the future, but at the same time it is certain that we have greatly improved our tools and techniques for *speculating* about that future.

Our panelists represent banking, retailing, the steel industry, and education. Together, they will present a picture of the various factors, favorable and unfavorable, which will be significant in determining the outlook for 1956. The speakers representing particular industries will, in addition, focus upon their own businesses as barometers of the future. Our first interest will be in an over-all look at the 1956 economy.

THE GENERAL ECONOMIC OUTLOOK

by Robert H. Laws

Forecasting the economic future is surely one of the more frustrating forms of human endeavor. For 1956—a year of National elections—the frustrations are accented by a great variety of political "if's" which serve to remind us that economics is, after all, political economy.

Nevertheless, we compose ourselves into a sort of executive omniscience and proceed to look into the misty future. We do this for one simple reason: every businessman lives in the future and must, therefore, proceed on basis of some estimate, or forecast, of that future, whether he likes it or not. His risks, for the most part, are in the future. He may get answers to the question

"What's the business outlook?" from a great variety of sources: his business associates, his banker friends, his broker; from commercial forecasting services, newspapers, tipsheets, and bankletters; from various agencies of government and from a growing corps of economists. In cases of extreme frustration he may consult his psychiatrist, or perhaps even his astrologer, for it is not anticipated that all these sources of economic information (or misinformation, as the case may be) will express unanimity of opinion. I am confident you have heard the expression that "where five economists are gathered together there is a *minimum* of six opinions," and perhaps the quip that "if all economists were laid end-to-end it would be a good thing."

Out of the confusion at the economic Tower of Babel, the hard-pressed businessman may be tempted to give up and simply toss a coin. But coin-tossing is unsatisfactory, and is making less and less sense as the techniques of business forecasting are improved. While economic forecasting, like weather forecasting, is something less than an exact science, there is no doubt that we have better tools and techniques for doing the job today than ever before.

TECHNIQUES OF FORECASTING

In a recent issue of *Business Week*, there appeared an excellent special report on "Business Forecasting." The three basic approaches, for forecasting the economic future were noted as:

(1) *The "loaded-deck" strategy.* This is the strategy of knowing what *has* happened, or what *is* happening before anyone else does, just as a man who knows how a deck of cards has been stacked will certainly know how they will fall when they are dealt. The future becomes identical with the present, and an accurate forecast is possible because an individual has "inside information" or has a faster means of getting the necessary information than anyone else. Obviously, this strategy will not work unless one or both of these conditions prevail. The Rothschilds made a fortune on the London Stock Exchange in 1815, employing the "loaded-deck" approach: they had advance information on the outcome of the Battle of Waterloo, brought to them by their own carrier pigeons.

(2) The second approach to forecasting is called the "oaks-from-acorns" strategy. This approach is based on the premise that the future is an outgrowth of the past and the present. In short, it is possible to forecast the future if we know and understand what has happened in the past, and, more importantly, if we understand the present and how it is germinating.

(3) The third strategy is identified as the "test-tube" approach. The assumption here is that there are certain underlying principles, or laws, which govern the relationship of economic variables such as spending, saving, investment, employment and output, and that these principles constitute a basis for forecasting the future. The problem, of course, is to discover, through scientific analysis, those enduring relationships, or "theories," which govern economic activity.

FAVORABLE FACTORS FOR 1956

All economic forecasting is based on one or a combination of these approaches. In our attempt to look at 1956, we can at least examine the past and present performance of the economy, and from this evidence reasonably speculate about the future. Such speculation will, of course, involve an awareness of both favorable and unfavorable factors. On the whole, the evidence of recent past and present performance of the economy is favorable indeed. Some of the favorable factors include the following:

- In the third quarter of 1955, the Gross National Product—the market value of total output of goods and services in the United States—reached the record-breakng rate of $392 billion per year. This was 9 percent higher than the corresponding quarter of 1954. More than one-half of this remarkable rise in output is the result of increased *consumer* expenditures, particularly for automobiles, housing, and other durable goods.
- We began 1955 with the GNP at a rate of about $375 billion per year, and will end the year at a rate close to $400 billion. This is about 20 times our national output in 1900, with no allowances for changes in the value of the dollar. When adjustment is made for changes in dollar values, the output in 1955 is about seven times that of 1900. This twenty-fold growth in absolute terms, against a seven-fold growth in *real* terms is a commentary on that well-known disease of money called inflation. Of course our population has more than doubled since 1900, with the result that our *per capita* output of goods and services in 1955 will be about three times what it was in 1900, in real terms.
- The current high-level performance of the economy is widely shared, with one notable exception. We have approximately 65,000,000 people at work, with high and rising levels of income. Almost one-half of American families earn more than $4,000 a year in current dollars. A comparison with 1900, using a constant dollar, would reveal about one-tenth of American families to be in this class. These facts are evidence of the greater diffusion of purchasing power in the present economy.
- During 1955 we have experienced stability of the general price level, and consequently the value of the dollar. As measured by the Consumer Price Index, the value of the dollar has changed extremely little during the past year.
- 1955, for most part, has been a year of industrial peace. The 10th post-war round of wage increases—including such innovations as the "Guaranteed Annual Wage"—was negotiated without major work stoppages in the key segments of the economy.

CONTINUED HIGH DEMAND

- In the consumer sector of the economy, demand has been particularly strong, supported by a rising level of personal income, plus the willingness of consumers to assume debt, especially for housing, automobiles (more than $14 billion at present) and other durables. Consumer debt is presently more than $100 billion, including mortgage credit.
- In the business sector of the economy, spending for new plant and equipment in 1955 will approximate $28 billion. The estimates for such expenditures in 1956 are about $30 billion, an all-time high. Another aspect of demand in the business sector is the renewed trend toward inventory accumulation which reflects the indirect effect of booming retail sales.
- In the government sector of the economy expenditures are in ex-

cess of $100 billion annually, including Federal, State and local governments. The outlook is for stability of Federal expenditures at about $62 billion, while there are increases in expenditures at the state and local levels. The announced expectation of a balanced Federal Budget in 1956 is a favorable factor which will give rise to various tax-cut proposals.

SOME UNFAVORABLE FACTORS

On basis of continued high expenditures on part of consumers, businessmen, and government, the outlook for 1956 is favorable indeed, although it is not anticipated that the over-all growth in output will approximate the 1955 rate of about 9 percent. A growth-rate of about 3 percent is considered "normal." A realistic examination of our prospects must, however, take account of a number of unfavorable factors, or "caution signals," which have been raised in some quarters, official and unofficial. A listing of these considerations would include the following:

- The farmer has not shared the present prosperity to the extent of other groups. The Department of Agriculture estimates that net farm income for 1955 will be about $10,600,000,000—down 10 percent from 1954. The over-all decline in net farm income since 1951 is about 30 percent, and the prospects for 1956, based on official forecasts, is for a further small decline. Of course the decline in income per farm-family is less because our farm population has been declining. In an election year, the decline in farm income inevitably will be compared with the present high level of corporate profits which are up about 27 percent over 1954. The Administration's plans for "doing something" to bolster farm income will be presented to the Congress in January.
- The significant rise in the volume of credit has been a cause for official concern throughout most of 1955. At the present time the total of loans of our banks is $8 billion higher than a year ago, reflecting an exceptionally high demand for credit on part of both businessmen and consumers. During the year the high level of stockmarket activity prompted the Federal Reserve authorities to raise margin requirements to 70 percent, and also set in motion the investigation of the market by the Fullbright Committee. In its attempt to avoid excessive growth of the volume of money and credit, the Federal Reserve authorities have raised the discount rate four times during 1955—to the present 2½ percent which is the highest rate since 1934. All of this means that the money-managers have been officially concerned with the threat of inflationary forces at work in the economy.
- The present prosperity is not shared in some geographic areas. To bolster these "depressed areas" of the economy, the Administration has announced plans for a domestic "Point 4" program.
- The post-war trend toward an increasing number of corporate mergers is viewed with considerable caution, and even alarm, in some quarters. This trend could result in a lessening of competition and other unfavorable results, particularly for the small businessman.
- Finally, there are those who forsee a growing volume of unemployment in spite of high-level prosperity. The contention here is that the economy is not expanding at a rate which will be sufficient to absorb our present and projected population increases. Certainly the task ahead for American management is a formidable one. The estimated population of the United States in 1975 is more than 200,000,000. This will mean a labor force of about 85,000,000, or about 20,000,000 new jobs in the next 20 years. In our economy, the task of providing for these new jobs is essentially the responsibility of private capital. With adequate incentive to invest, plus continuing technological advances, there does not appear to be any present reason why this challenge cannot be successfully met. But, like Alice in Wonderland, we must run fast to keep in the same place.

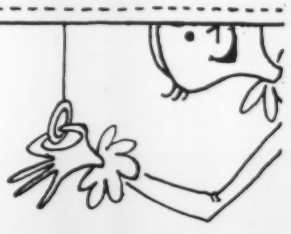
Dr. Arthur F. Burns, Chairman of the President's Council of Economic Advisers, recently highlighted the delicate balance of economic forces in our present circumstance when he remarked: "In an economy like ours, poised on a high plateau, neither the threat of inflation nor of recession can ever be very distant." The inflationary danger stems from a possible over-extension of money and credit which will push demand beyond the limits of current productive capacity, and thus raise costs and prices. The deflationary danger arises from the possibility that particular markets (automobiles, for example) may become oversupplied, inventories built up excessively, and a period of adjustment ushered in.

In walking the economic tight-rope, we must avoid excessive credit which could set off the inflationary spiral, and at the same time avoid sharply curtailed credit which could introduce the deflationary spiral. This is obviously not an easy task. But the preponderance of evidence at the present time indicates accomplishment of the task, with the outlook for 1956, particularly the first six months, a bright one indeed. ●

CHAPTER MEMBERSHIP STANDINGS

as of December 1, 1955

New York	405	Bridgeport	74
Philadelphia	358	Richmond	73
Northern N. J.	357	Georgia	73
Cincinnati	300	Sacramento	69
Chicago	289	Puerto Rico	69
Cleveland	268	Providence	67
Lancaster	260	Knoxville	66
Pittsburgh	237	Columbus	64
Detroit	211	Trenton-Del. Val.	64
Boston	195	Alabama	61
Washington	190	Reading	60
San Francisco	163	Calumet	55
Milwaukee	151	Central Penn.	53
Dallas	144	Hartford	53
Los Angeles	136	Clearing	52
Worcester	127	Greenville	51
Indianapolis	125	Charlotte	49
Western N. C.	117	Western Mass.	46
Raritan Valley	106	Central N. Y.	44
Baltimore	102	Lehigh Valley	43
Montreal	102	St. Louis	42
New Haven	100	Twin City	39
Greensboro	97	Fox Valley	39
Hudson Valley	97	New Orleans	37
Binghamton	96	Athens	34
Kansas City	92	Madison	33
Dayton	85	Nashville	31
Wilmington	77	N. E. Penn.	29
Portland	29	Non-Chapter	102
Stamford	17	Non-Resident	81
Louisville	16		



THE STOCK MARKET AS A BUSINESS BAROMETER

by R. Crosby Kemper

The 1955 stock market rise seems

to have been based more on solid growth and progress in our dynamic American economy than on any desire to speculate on the part of the American public. Even though this is the longest bull market in history, and stock yields have been lowered to a point where they are only about one percent above bond yields, most investors still prefer common stocks.

One reason for their optimism is the high level of personal income and the prosperity tune that is jingling from corporate cash registers now. Most corporations are expecting to spend lavishly for plants and equipment. Consumer expenditures are expected to hold steady or rise because of wage gains, possible tax cuts and peak level employment. Internationally, tensions are gradually being eased which gives the average citizen a feeling of more security and thus promotes buying. Many industries have run into actual shortages, such as steel, cement and newsprint, with rising prices. In addition to this, the predicted rapid rise in population during the next decade, coupled with many new and sought-after products, should add further strength to our economy.

Present high income taxes have discouraged investing in stocks solely for dividends. Investors now have an eye more for growth and capital gain, and the market has broadened with the entry of the small investor, pension and profit-sharing trusts, various types of investment trusts, and widened buying by insurance companies. Even now there are shortages in some classes of stock, and stock prices follow demand.

In spite of several distressing factors such as tightened credit, an easing in automobile and house buying, and the rather distressing situation of our farmers and livestock men, there is plenty of optimism concerning the immediate future and well into 1956. ●

THE STEEL INDUSTRY AND THE ECONOMY

by F. C. Herbster

The steel industry is a stimulus to the economy through the use of enormous quantities of raw materials in the manufacture of its products. We expect the steel industry to continue to expand and grow as it has in the past, performing as one of the healthy elements in our economy. To give an idea of what may take place in future, here are some of the facts about steel in the immediate past.

The iron and steel industry handles more material per ton of finished product and in a greater variety of ways than any other large-scale manufacturing industry in the world. For one thing, this means that adequate supplies of various raw materials must be secured, including some of the alloying metals for which we are totally dependent on imports.

In 1954 the steel industry's payroll totalled nearly three billion dollars. This did not include any payments made by the companies for social security, pensions, or insurance. From 1940 to 1954 payment for wages and salaries increased 211%, tripling itself. The number of employees increased 14% during that same period.

Steelmaking capacity in the United States has grown almost three times faster than the population. Steelmaking has multiplied almost six times since 1900 and stood at 125,828,000 net tons of ingots annually at the opening of 1955. The population in the same period has little more than doubled. Hence, we can now produce nearly three times as much steel per person as at the start of this century.

This enormous growth in steelmaking capacity has helped make possible the vast increase in the American standard of living that has occurred since 1900. In this period, electricity and labor saving devices have reached into practically every home; the automobile has become a national convenience and necessity; the national output of goods has tripled since 1929.

Three industries take half of the annual shipments of finished steel. In 1954 shipments of finished steel totalled 63.2 million tons. The automotive industry took 19.5%, warehouse and distributors 16.4%, and construction and contractors' products 15.7%.

In all these developments, iron and steel have played an important role. A ton of ingot steel capacity is essentially a potential. Like a kilowatt-hour of electricity, steel can do countless kinds of things for people. It acquires its ultimate value through fabrication into many varieties of products that every home needs. Our steelmaking capacity is, therefore, a measure or barometer of our power to produce the comforts of daily living and to defend ourselves in the event of a national emergency.

Who can doubt, in the face of the industry's accelerated expansion in the last decade, that there is further development ahead? The rise in the steelmaking capacity of the United States during the present century will be viewed by future historians as a key development in the nation's progress and rise to world-wide leadership. ●

RETAILING AND THE ECONOMY

by Herbert H. Wilson

I believe the retailer is the most important cog in our economy today, yesterday, and tomorrow. I say this because manufacturers and jobbers all depend on the retailer to sell their products to the consumer. Retailers are the show windows or show rooms for all kinds of products, whether spools of thread, fine dresses, or automobiles.

Does advance buying indicate a prosperous 1956? I definitely feel that the spring of 1956 is going to be a very fine season. Buyers have already been to the market and placed orders for at least the first few months of 1956, and in our case, all of our buying is based on an increased volume. With the placement of our orders now for later delivery, the manufacturer has an opportunity to make the merchandise and to get it to us by the beginning of our selling season. Most retailers are planning on good business in 1956, and if the retailers do plan on business gains, it means that the manufacturers will have good business. As confirmation, I am on the Board of Directors of a large dress manufacturing company here in Kansas City and the advance orders for spring delivery from this factory are up 14% over last year. This firm sells in practically every major city in the United States, so this indicates that retailers are planning on larger volume.

Here are some figures predicting conditions in the spring of 1956 which I feel are quite authoritative: There will be at least 1,500,000 more people working in the spring of 1956 than last year, and this will be a new spring record. People will be earning more this spring than they did last spring, and even after taxes, people will have ready for spending nearly six billion more dollars than last year, and many stores will beat this. Everybody will be going after increased business and the competition will be plenty hot. If retailers are successful in getting the increases that are planned for this coming year, this will mean more business for the manufacturer and the jobber, more employment

for all of those who supply us with merchandise, and more income for those who sell the merchandise. With high income, retailers are bound to do good business.

The retailer helps to make our entire economy healthy. With an election year, I don't think there is any doubt that the government will see there is no slump in any kind of business. As far as Kansas City is concerned, our merchants will all be out to get their share of any spending money available for our kind of merchandise, and in doing so they will help to stimulate our whole economy. ●

DISCUSSION

Question: What effect is the guaranteed annual wage or a reasonable facsimile thereof having on planning by manufacturers and especially the immediate planning for 1956 by companies which will inevitably be faced with this problem?

F. C. Herbster: While I am by no means an expert on the guaranteed annual wage, as far as the steel companies are concerned, they are not making any plans to provide for it. We will not be faced with it until some time next summer. If our economy continues at the present level, there will be very little demand for GAW payments or any other payments such as unemployment compensation by way of the GAW. If our economy would chance to slump, there will be a demand on those industries with GAW arrangements, but they will only make such payments to the extent of their reserve fund capacity, and the impact on these industries may be no more than that of the pension plans a few years ago. In the steel industry particularly, there is very little demand on the pension funds, and possibly the same will be true with the GAW.

Question: All of the economic reports and forecasts place a great deal of weight on what the automobile business will do. Do you think we might be in a precarious position by placing so much emphasis on the automobile? If they don't make that 8 million car mark but only hit a 5 or 6 million mark will our economy be damaged?

R. C. Kemper: That question concerns economists and all business men. Mr. Herbster said that the automobile industry takes about 19% of the output of steel. Any decline in the automobile industry would bring a decline in the production of steel, lowering the purchasing power of steel workers and affecting the whole economy. An automobile dealer who is a very good business man and for whom I have great respect recently stated to me, "I just don't see how this automobile racket can keep up. Here we are selling merchandise today on 36 months—if we don't someone else will. The buyer is thus mortgaging his purchasing power and he will not be able to buy another car. This is true of a large segment of the Kansas City population. They will not be potential customers for the next two or three years. I can't see how the automobile business will be very good from that standpoint in Kansas City." There is a good deal in what he says. With these long term loans, many customers have mortgaged their future and instead of being able to buy new merchandise in one or two years they will be paying for the merchandise they already have.

Question: Is there an explosive situation in the automobile industry then? If they do not meet their 8 million car sales, and since so much depends on the direct sales of cars and also on the plant equipment, would this have an effect on our whole economy?

R. C. Kemper: It would be a very trying, though not a very explosive, situation. If I had to predict, I would say that automobile sales will be off next year. The buck has been passed to the dealers, and I've looked over many dealers' statements. They have reached the point where they can't take much more. The industry will either have to subsidize their dealers, or they will have to establish factory branches, for the dealers just can't go on. One dealer here lost $40,000 last month and there are others. I don't think any of the dealers are making much money now, cars are being shoved at them whether they want them or not, and they have to sell them at any figure above cost. That situation can't go on for too long.

Question: Is it true that the longer we remain on the current plateau the higher the degree of deflation or inflation will be when we leave it? Was that not the situation in 1948, for instance?

R. H. Laws: Whatever the historical past has been, it does not give us a completely accurate guide for the future. The elements in the picture at the present time are far different from those in 1929 or 1948. We cannot say whether the variation from the plateau will be sharper or not. The degree of change from a particular position depends upon the timing of a great many possible actions which could be taken by consumers, businessmen, and government. These actions can never be fully known in advance, and thus it cannot be concluded that the longer the prosperity period, the sharper will be the fall.

Question: Isn't it true that our economy is on a gradual incline? There may be some ups and downs, but the economy as a whole has an upward slope, does it not?

R. H. Laws: Yes. We should distinguish three types of economic change: seasonal, cyclical, and secular. Your question refers, I assume, to the last. Secular change, or the long-term movement, is distinctly upward, the long-term growth in productivity. As a result of this movement, the American economy is estimated to be about 3% per year in real terms. In other words, our past standard of living tends to double about every 30 years or so.

Question: What effect do you think the many wholesale houses which have sprung up over the country are having on the retail business?

H. H. Wilson: There isn't a major retail store in Kansas City which doesn't sell as cheaply as such discount houses do on the same items. But with the retail stores you buy on credit and you have services. Retail stores in Kansas City have done very well, and the discount houses have not really affected them. We will meet any kind of competition which comes along. They can never run us out of business for it is only a small percentage of the overall volume which they affect. It has hurt some small independent merchants who sell appliances.

Question: Is consumer credit very high in the retail business?

H. H. Wilson: Our percentage of credit sales is a little higher than it was a few years ago, because we sell on the basis of revolving credit where you can pay $10 on a $100 debt and then buy $10 more merchandise. We find that our collections are very good, but our percentage of charges is a little higher than it was a year ago. Referring to the comments about the automobile business, we find that the better the automobile business the poorer the retail business; when the consumer has spent all he has on his automobile there is little left for the retailer. Today our charges are about 60% of our intake. Usually the rate is about 50% charges to 50% cash customers. ■

The Washington Chapter's roundtables on scientific management in the home are vividly reported and appraised in this article. James J. Bambrick, Chairman of the S.A.M. Publication Awards Committee has announced that this article is the winner of the 1955 National Publications Award.* Stimulated by Dr. Lillian Gilbreth in 1952, the roundtables are composed of couples interested in exploring the application of a variety of management techniques in the home, covering such subjects as money management, planning and scheduling, safety, leadership and decision-making.

The Homemaker-Executive At Large

Winner of the 1955 S.A.M. Publication Award

By Catherine R. Morhard and William C. Morhard
S.A.M. Washington Chapter Washington, D. C.

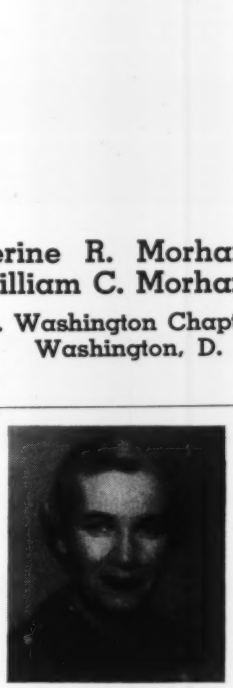
"SCIENTIFIC management applied to the home" sounds like a mighty forbidding subject. In fact, you might tend to pull back with dismay at the thought of even being exposed to it. Many people do just that when we first tell them about it. They seem to think that our home must run on a tight schedule, operate on stop-watch efficiency and work from an ironclad budget. Certainly there would be no dirt, dust, muss or disorder around, and no relaxed family atmosphere either. If that were the true picture of scientific management in the home our family would have discarded the idea a long time ago. We can't operate happily on a lot of rigid controls. Furthermore, we place family life and the social structure of the home first on our list.

Home management is a means of achieving family goals through use of human and material resources. Home management tends to be scientific when it is based on accepted principles of management, objective thinking and systematic analysis. There is much more to scientific management than economy of motion, time and energy. Principles of leadership, communication and cooperation, planning, decision making and the many elements of human management are equal, if not more important, elements in the scheme of things in the home.

We became interested in this subject in 1952 primarily through the efforts of Doctor Lillian Gilbreth, the noted exponent of scientific management. She talked to several members of the Washington Chapter of the Society for Advancement of Management one night on the possibility of initiating a round table to introduce ideas of business management into the home. She stressed three things primarily: first, that scientific management principles are just as applicable in the home as they are in the office, industry or business; second, that home management is a fertile field for development; and third, that the concept of husband and wife teamwork might be a stimulus to such an endeavor. This discussion influenced the S.A.M. Chapter to establish and organize a round table on scientific management applied to the home.

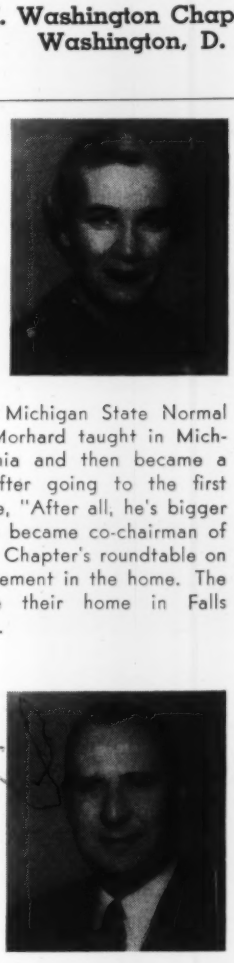
When Bill heard about this idea, he thought it would be a good opportunity to expose Kay to some modern management techniques and to show her how they could pay dividends. When Kay heard about the roundtable she had some reactions, too. She likes to go

CATHERINE R. MORHARD



A graduate of Michigan State Normal College, Mrs. Morhard taught in Michigan and Virginia and then became a homemaker. After going to the first meeting because, "After all, he's bigger than I am," she became co-chairman of the Washington Chapter's roundtable on scientific management in the home. The Morhards make their home in Falls Church, Virginia.

WILLIAM C. MORHARD



An industrial engineer in the Navy's Bureau of Aeronautics, developing and installing modern management techniques in naval aircraft industrial establishments, Mr. Morhard previously worked as an engineer for Detroit Edison and served in the same capacity in the Navy during the war. He received his B.M.E. degree from the University of Detroit and is an S.A.M. member.

**Manuscripts on any phase of management being submitted by the Chapters for the Publication Award for 1956 should be mailed to the editor of Advanced Management before June 30, 1956, clearly marked "For consideration for the Publication Award for 1956."*

out on a date any time. This time, however, she wasn't too anxious. But she felt it might be wise to go along with the idea, because as she put it, "After all, he's bigger than I am." Can't you see the enthusiasm she had for being scientifically managed?

At our first meeting, each of us was asked to tell why we were there. Some of the people gave very serious reasons for attending. They said they wanted to conserve energy, to learn new management principles and be able to apply them at home, or possibly learn to teach them to their children. They wanted to know about kitchen layouts and the newest and best arrangements they could have, and learn about money management—how to make their money go farther. One of the men said that he was there because his wife was a "cement-head." She was "all mixed up and ready set." He told the story of coming home from a demonstration on the Heart Kitchen all enthused over motion and energy economy. While his wife was working, he rearranged all the kitchen utensils and equipment to the point of first use, in order to conserve her energy—to help his wife. He claimed that they had no dinner that evening until everything was back in its former place. His wife said, "Bob, you run your office, and I'll run this kitchen!" All of these reasons reflected the attitudes of the group.

From our discussion that first evening the roundtable program was developed to include many of the interests mentioned. During the past several years we have covered subjects concerned with goals and values, energy saving, use of resources, time and motion economy, resistance to change, communication and cooperation, leadership, decision-making, money management, layout and storage, safety, planning and scheduling, as well as others.

ROUNDTABLE TECHNIQUES

In these roundtables we used many presentation techniques. A visual demonstration was used at one meeting on time and motion economy. First, work simplification principles were outlined to select a job, make a process chart, challenge every detail, work out a better method and apply the new method. Then members of the group were timed in placing pegs in a peg board. Many variations of sequence, hand motions and pre-positioning were tried. All of us became interested in challenging every detail in order to try to work out a better method. This stimulus carried the challenging approach over to many of the routine jobs in the home. We thought of many details to challenge in putting groceries away, washing dishes, and making beds.

ROLE-PLAYING IDEAS

Role-playing was used to illustrate the ideas discussed on decision making. A real problem of someone present was taken. Members of the group played the part of the husband, wife and child involved. Then everyone tried to analyze the decision made to see if it were a forced decision dominated by one person, a compromise decision where each in the group gave in a little and no one was really satisfied, or a creative decision where everyone helped to build a totally new solution. From this we tried to analyze our own manner of making decisions with the hope of bringing as many of them as possible over to the creative area. Panel discussions, guest speakers, movies and laboratory techniques were other ways in which the groups were led into discussions. Through these open discussions the combined ideas of experts, wives and husbands helped overcome resistance to change, our first barrier.

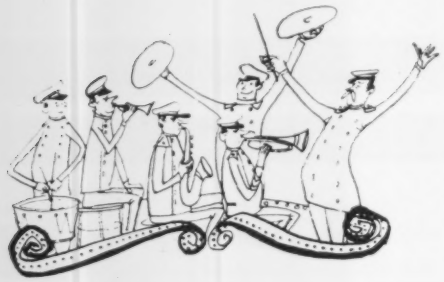
Before we joined the roundtable, resistance to change was exactly what we had at our house. We both reacted pretty much the same to any suggestion for improvement. The new idea was accepted with the attitude, "If I just sit tight and go along with it passively, it will be forgotten in a week or two and we'll get back to normal." The way we tried to manage our money is a good example of this. Each time Kay heard of a new budget book she got it and tried to fit our spending habits into it. Although we both wanted the end result of making our money go farther, Bill tended to resist the mechanics of working out a budget. The money management roundtable meeting, at which we obtained information on a tailor-made budget, gave us both the incentive to get a true picture of our money outlay. We decided to try one of the ideas given at the meeting. Any slip of paper with a record of a purchase was thrown into a box. Even the corner of a newspaper was used if it was the only thing handy. We both wanted to make this system work, and it did. In three months we had records that surprised us a little.

We haven't set up or tried to live on a fixed budget as a result of this, but we have changed our spending habits. We don't always have to spend money to have fun. Neither of us needs to have the latest gadget. We plan our spending in general and we're getting more of the things we really want. If, in six months or a year we feel this isn't effective enough, we'll keep some more records. That's as close as we like to come to a budget and we like the attitude it has fostered. We're in agreement in general on our spending, but we are willing to try a change at any time.

One of the meetings on work simplification required homework. That's the time Bill ran a stop watch on Kay. Our assignment was to select a simple job in the home, chart the operations, analyze them and improve the method. As our project we picked the setting of the dinner table, about a two minute operation. At that time Kay's thinking on being scientifically managed hadn't changed much. Furthermore, she thought her methods were pretty good in the kitchen. When we saved what amounted to 70% of the walking distance and some 20% of the time on just a simple two minute operation, she really became intrigued with the idea of saving a motion here and a minute there. Kay said she went along with the stop watch and chart because it was an assignment; however, she really felt that there was little room for improvement. She always used two hands and she carried as much as she could each trip. She was pretty sure Bill would have to admit that she worked quite efficiently, at least while setting the table. She was impressed when we figured out the percentage of improvement we had made on savings of time and energy just by the use of a tray and the change of work sequence.

CLARIFYING FAMILY GOALS

From then on she was conscious of motion economy for sure. She doesn't go around with a stop watch, but she does analyze her work to see if she can eliminate any of it, combine a few steps, or rearrange the sequence. She says it's a good cure for boredom in housework. When she thinks of and tries improvements, the job is a challenge rather than a routine. We both know that the ideal would be to find the best procedure, develop it and then establish it as the routine. Some people



CHAPTER HONOR ROLL

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strive for the routine as a goal. In Kay's case, the routine would become monotonous and would defeat her goal of enjoying the working day as well as planned fun and entertainment.

It may sound as though we have always had a clear picture of the goals for our family. Neither of us had ever given any serious thought to the idea until the roundtable discussions on the topic. We had lots of dreams and plans for the future but no definite goal, especially for everyday living. We lived by different values but it never occurred to us that we should try to discuss them, learn to understand them or be tolerant of them.

We had some rough months after we moved into our new house a few years ago, but we didn't know we could clear the problem with a little friendly discussion on what we each gave top priority. Bill felt we should get the house and yard ship-shape before we took time to sit and enjoy a get-together with our new neighbors. It was more important to Kay to let a few things go and stop now and then, even in the middle of a project, for a chat and a cool drink. We did manage to get the work done and meet the neighbors too, but until the roundtable discussions got around to goals and values it didn't occur to us that we were being intolerant of each other's attitudes. Probably we just thought the other was being stubborn. Now we realize every person builds a set of values from his own reactions to everything he has been exposed to in his life. It's easy to see why a German and an Irishman, like the Morhards, would have to adjust a bit. Even sisters or brothers who have been exposed to many of the same situations will come out with very different values. This has helped us. We're less prone to be irritated at a difference of opinion. We talk it over and haven't missed resolving a problem yet.

RESISTANCE TO CHANGE

On the element of human management, we learned to develop the habit of talking things over without quick resistance to each other's ideas. Once the roundtable group had introduced the thought that resistance to change was usually present in every new situation and that it was a natural human reaction, we found it easy to anticipate the resistance without iritation and to have a quick answer ready. Before, we usually had two good reasons why the new idea wouldn't work even while the idea was being presented. Now, usually, "*Hup, Hup, Resistance To Change*" is enough to get an open mind on the subject.

Our thinking on communication and cooperation has changed a bit, too. We had a panel of experts on personnel management present some of the problems encountered in business and industry. They agreed that poor communication often was the underlying reason for dissatisfaction and lack of cooperation. When the problem area was clearly defined for everyone concerned, their attitudes changed. We tried to define the problem area the next time a disagreement came up at our house and we cleared up the whole disagreement just by better communication. Roundtable members also suggested ways of keeping communication lines open and improving human management in the family. Suggestions included the family council, a family bulletin board, a blackboard and a family calendar for all dates made.

FISHING OR CUTTING GRASS?

The family council has proven to be very successful. One of the couples we know uses this technique regularly to let their children make family decisions. On one occasion they resolved the problem of buying a power lawn mower as opposed to an outboard motor. They had a boat and liked to fish. The children wanted the outboard motor, but they also wanted the power mower because they had the unpleasant work assignment of cutting the grass. In the council meeting they made the decision to buy the outboard motor. Having helped to make the decision, the children were willing and happy to live with the results and to change their attitude about pushing the hand mower around.

All of the fields of management covered in these roundtables have aroused our interest. Most have been of considerable benefit to our everyday family living. As a result, we are more open-minded to new suggestions and more willing to see if they work and fit our situations.

The topics presented, during the several years the roundtable has been in operation, are not entirely new. A wealth of good information is available to any group from many sources, such as the United States Department of Agriculture, the Home Economics Asso-

ciation, management societies and business and professional groups. However, the husband and wife teamwork approach is, we think, the innovation that breaks the barrier of resistance to new ideas. It helps bend the straight line of perfection to a comfortable form so that all in the home can live happily.

Our roundtable participation has swelled and receded with the interest of the topics presented. The membership has been transient in nature primarily because each couple absorbs only that information they feel applies to their own situations, and because of the rapid turnover of personnel in the Washington area. The roundtable, with meetings once a month for two or three hours, can only be a stimulus to make people think about good management and better family living.

As a result of our studies, we have become more conscious of the fact that some form of management exists in every home. Some families, however, just manage to manage, and others have no difficulty whatsoever. The difference seems to depend on three things, namely the understanding of management principles, the recognition of the contributions these principles make in the home and the mental attitude for improvement.

IMPROVED HOME MANAGEMENT

The homemaker plays a very important role in the home. She, by the very nature of her position, is the executive-at-large, the purchasing agent, the salesman, the supervisor, the arbitrator and the worker. The industrial revolution, with all its specialization of skills, hasn't reached her and probably never will. Consequently she has a most difficult and unenviable job. The prudent use of scientific management principles can be of great value to her in their application to the home. Laboratory perfection is a poor goal for family living, but professional techniques can act as a lubricant to help the home run smoothly.

Families are becoming more interested in better home management. Once they understand the scientific management approach, they no longer will consider it a forbidding subject or associate it with industrial stop watch efficiency. They will realize enjoyment and a sense of satisfaction from its use. We hope it becomes as great an asset to the well-being of their homes as it has to ours. ■

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Is labor irrevocably against time study? Incentive systems? Increased automation and production? The author holds that it is not, provided that the basic aspirations of workers should be indispensable parts of the programs which the engineers develop. He hopes that "engineers will become more rather than less involved with labor problems and that they should come to occupy positions of responsibility in this field," and believes that "the engineer who considers all the human and social implications of his proposals may more likely succeed in the long run." This article is based on a paper presented by the author before the S.A.M. Central Pennsylvania Chapter in November, 1955.

Labor Looks At Industrial Engineering

By David Lasser
Research Director, IUE-CIO
Washington, D. C.

We of the labor movement look upon industrial engineering as a valuable and necessary tool to our complicated industrial society — which if used properly will enable us to do our work with the minimum of effort, improve production methods and therefore productivity, get better products, properly reward workers for their production and enable prices to be reduced. Industrial engineering must be applied with careful and adequate consideration of these basic goals for which the workers affected are striving.

Labor organizations have expressed their interest in industrial engineering by setting up departments devoted to these problems. Trade union representatives have taken out membership in professional societies such as the S.A.M. We are attempting to educate our membership in the principles of industrial engineering and we encourage young engineers to find a satisfying and rewarding career in the labor movement.

Like other important tools—atomic energy and the rocket, for example—the important question is the use to which they are put. And that depends upon the wisdom, understanding and social conscience of those who operate this important tool. Industrial engineering must be applied with careful and adequate consideration of those basic goals for which the workers affected are striving.

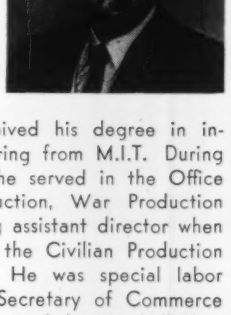
It is no discredit to the M.I.T. of 1955 to say that when I was a student, our training, in the main, was narrow and materialistic. We were taught how to squeeze out more production, how to increase profits, how to get ahead in our professions. But there was little that give us an insight into the human, the social, the economic implications of our actions. We were the generation of engineers who, coming out into the industrial world in the mid-twenties, found our old ideas going up in smoke in the devastating depression of 1929-1933.

In those days when I was a student, and in my early days practicing in this profession, the labor movement was very weak—having a total of perhaps 3 million members. Of those, very few were in the large basic industries where industrial engineering was making such great inroads.

In those days workers were considered simply as faceless, nameless instruments for production and profits. The road to wealth and fame for the engineer lay in devising some new system of incentive payments which would deprive the worker of part of his increased production. The words "efficiency expert" were a hated designation that workers applied to the industrial engineer.

Happily at M.I.T. as well as other engineering schools, there has been a tremendous change toward a broader approach in both the course of training and the mental outlook. As a matter of fact, M.I.T. today has on its staff a professor drawn directly from the ranks of the trade union movement.

A new generation of industrial engineers has grown up side by side with the growth and influence of the trade union movement. We have learned part of the lesson taught by the experience of the 1920's—that labor is not simply an instrument of the productive process but is an indispensable partner. We have learned that labor must be looked upon



DAVID LASSER

Mr. Lasser received his degree in industrial engineering from M.I.T. During World War II he served in the Office of Labor Production, War Production Board, becoming assistant director when it converted to the Civilian Production Administration. He was special labor advisor to the Secretary of Commerce in the development of the Marshall Plan, acted as labor consultant to the E.C.A. while studying the European labor movement, and is now research director of the International Union of Electrical, Radio and Machine Workers, C.I.O.

as a consumer as well as a producer. The engineer of 1955 has a much better understanding of the factors that make for a healthy economic order and a healthy democratic society.

Unhappily, too many engineers refuse to recognize that the conditions contained in union contracts are healthy for the whole economy. Too many engineers still look upon efficiency as a god and think that trade unions are unwholesome barriers to their goals. It is a characteristic that is both the strength and weakness of the engineering mind—to fall in love with its own creations and to lose sight of their ultimate value.

Certainly, we can agree that the goal of the industrial engineer, as well as the rest of us, is to achieve a personal realization while increasing the sum total of human wealth, happiness and culture.

A man might design the most perfect machine in the world from a technical standpoint, but if it does more harm than good is it really a contribution?

We of the labor movement ask for understanding and recognition by the industrial engineer that the aspirations of workers should be indispensable parts of the programs developed by the engineers.

LABOR'S BASIC GOALS

There are five major goals that labor seeks:

1. Advancement in labor's standard of living as rapidly as our society can afford it is the first goal. The advertising agents employed by business organizations have done such an effective job that the American worker has an appetite for all the good things of life that are within our reach. He wants to share fully in the progress of our industrial society.

This means continual increase in wages, sharing in the increased productivity and prosperity of our industrial society. The very economic health of our society demands the realization of this goal. In this period of such tremendously increasing floods of goods for sale, the corollary of any plans for increases in production must be equal plans for a market for those goods.

While the labor movement represents directly about one-third of the people employed for wages and salaries, what we propose affects the 48 million wage and salary workers who comprise about 75 per cent of our population. In turn it exerts a tremendous influence upon the farmer, the professional people and the business people.

2. The desire for security is the second of these great goals. The fear of the loss of one's job, the fear of loss of income through sickness, accident, old-age or other causes is etched deeply in the minds of workers. They naturally look upon the plans and programs engineers devise in terms of the effect upon their security.

ENGINEERS SEEK SECURITY

Too often the plans of the industrial engineer come to grief because he was unaware of or ignored this fact. The labor movement does not need to apologize for this urgent need of workers for security. Most engineers in their own way, and at whatever standard they set for themselves, have exactly the same need and desires.

Engineers often declare impatiently that this need for security stands in the way of progress. We would maintain that security is perfectly consistent with progress; and the engineer who makes the *real* contribution is the one who harmonizes security and progress.

As examples of this, the question of the guaranteed annual wage and the developments in automation come to mind. Workers are demanding the guaranteed annual wage as a means to provide 52 pay checks a year to pay expenses 52 weeks a year. They have been called upon by our great industrial corporations to achieve the American standard of living by mortgaging their future income. They find themselves loaded down with fixed charges in the form of installment debts. They cannot understand, therefore, why the companies who sell them these goods on the installment plan should consider it somehow immoral to have to provide the means to pay these fixed charges.

The desire for the guaranteed annual wage has been increased tremendously by the rapid increase in automation. The worker feels increasingly insecure by this new industrial revolution and he seeks for protection against its possible dangers.

While he recognizes, as has been stated by our great business organizations, that in *the long run* everything may work out all right, he knows that in the long run we are all dead. In the meantime we must live. Although he has seen that technical improvements have resulted in *the long run* in increased employment, nevertheless our history has been marked every seven or ten years by violent economic depressions with mass unemployment and tremendous suffering.

The worker who pays for these depressions, although he did not create them, feels that he has a right to expect that our industrial society should be so operated as to provide him with a better measure of security.

Actually automation cannot operate successfully without this security for the workers. The tremendous initial cost of automatic equipment requires mass production on a continuous basis. The guaranteed annual wage would provide both security for the workers and the continuous purchasing power necessary to support the continuous operation of automatic equipment. Thus, security and progress are harmonized.

3. The third great need of workers is for a sense of creativeness in their work. Too often, unfortunately, the drive for the utmost of productive efficiency results in a breakdown and destruction of skills, and reduction of a large percentage of workers to a repetitive task on an assembly line. The worker knows and deals with only that piece on which he performs one operation, and his sense of creativeness is lost. Unless other means are provided to restore it, the job becomes an endless dreary monotony.

Chapter Performance Awards Report

July 1, 1955 - October 31, 1955

Providence	4085	New Orleans	2335
Knoxville	4039	Clearing	2272
Lancaster	3814	Columbus	2194
Hudson Val.	3760	Lehigh Val.	2190
Bridgeport	3646	New York	2064
Greensboro	3526	Dallas	1968
Wilmington	3410	Twin City	1886
Indianapolis	3354	Sacramento	1858
Chicago	3344	Worcester	1838
Raritan Val.	3307	Los Angeles	1747
Philadelphia	3171	Baltimore	1696
Boston	3008	Montreal	1537
Pittsburgh	2974	Central Pa.	1423
Western N. C.	2974	Portland	1344
Cleveland	2962	Central N. Y.	1312
New Haven	2610	San Francisco	976
Saint Louis	2798	West. Mass.	853
Nashville	2722	Detroit	624
Northern N. J.	2719	Madison	318
Milwaukee	2715	Athens	—
Washington	2585	Calumet	—
N. E. Penna.	2581	Charlotte	—
Greenville	2555	Cincinnati	—
Richmond	2516	Dayton	—
Reading	2501	Fox Valley	—
Kansas City	2408	Georgia	—
Trenton-Dela. Valley	2393	Hartford	—
Binghamton	2388	Puerto Rico	—
Alabama	2384	Stamford	—

One employer, recognizing this important fact, preferred to sacrifice a little of the immediate efficiency. He arranged with the union to have people in the same general classification periodically exchange jobs. Thus they got a refreshing change in activity and vocation and a better feeling of their participation in producing the product.

Many workers, of course, finding themselves in a dead-end monotonous job seek their creative outlets elsewhere. Employers should not be upset when they find the major creative interest of the employee is outside the plant.

4. The fourth great goal of workers is for a sense of participation in their work. The worker wants to feel that he is not merely an appendage to a great industrial machine but that he is an important and a necessary part of it.

UNIONS EXTEND PARTICIPATION

One of the most striking developments in creating a sense of participation has been through the union machinery—extending from the steward to the top union committee. Here through his elective representative, who may work on the next bench, the worker can feel that he has a voice in determining his relationship to not only his wages but also the other many important conditions of his work. This system of union representatives should be encouraged rather than opposed by the engineer.

5. The fifth great goal of workers is for a sense of dignity in his job and in his relationship to his fellow workers and to the supervisors.

We can all remember the time when industrial managers considered that they were divinely appointed by God to manage our industrial society and that workers who did anything other than obey orders were interfering with Divine Providence. Fortunately, time and education has considerably reduced the numbers and influence of these people. But even in a less striking form, the idea still exists that an industrial organization must be modeled on a military organization. There are just two groups—those who give orders and those who obey them without question.

The people who hold this view, and that includes many foremen, bitterly resent the interference of union representatives—because that constitutes an interference with their will to power.

A worker spends most of his waking hours at his job. Whatever interferes with his sense of dignity as a man or his sense of justice, exerts a crippling influence upon those hours that he spends as a member of his family or society.

The union steward, the grievance committee, the union bargaining committee are powerful instruments to maintain his sense of dignity and fair play. These, too, should be encouraged and not opposed by the industrial engineer. It can be argued successfully that any scheme that violates the sense of dignity and fair play of the worker is doomed to failure.

In addition to these five major goals of labor, there are several other important questions that should be considered in the relationship of labor and the industrial engineer.

First is the increasing importance of engineered systems to measure the amount of pay that workers should get. In many industries the overwhelming majority of production workers are paid on the basis of an engineered incentive system. The problems that we deal with on a plant level are often concerned with conflicts over the operation of these wage payment systems.

One great difficulty is the tendency of engineers to try to devise something new for the sake of originality and to fall so in love with their creation that they fail to recognize the impact upon the workers who must live under these systems. Often originated for the purpose of making a sale to industrial companies, they are loaded down with complicated provisions that workers find baffling to understand.

NEW SYSTEMS ACCEPTABLE?

For example, there are numerous new systems introduced involving standard data. Salesmen from engineering firms convince industrial managers that they have something which is new, foolproof and will do everything including washing the family laundry. After the employer has paid the engineering firm a handsome price for installing it, he is often distressed to find that workers do not embrace it with great enthusiasm.

Too often attempts are made to introduce these systems without prior consultation with or approval of the unions and the result is naturally great conflict. After all, these standard data systems go on the assumption that man is like a machine with standard physical setup, reactions, capabilities, etc. We know this is not true and there are a large percentage of workers to whom the standard data would not apply. These systems simply cannot operate with anything like the accuracy that has been claimed for them and the attempt of engineers to introduce them on the basis of exaggerated claims leads only to discrediting the engineer and his product.

TIME STUDY ACCURACY?

The same point holds for the accuracy claimed for time studies. Employers represent these studies to us as being absolutely accurate and not subject to serious challenge. Yet when experiments have been tried, using several time study men on the same job, widely different results have been obtained not only from the studies themselves but from the allowances and levelling factors. Many of these questions like that of fatigue should be recognized frankly as matters of judgment. The worker loses confidence in a system when he is told that his movements can be measured to even one hundredth of a minute and then big percentages are applied for fatigue, delays, effort, etc., based on the judgment of a time study man.

It is better to frankly recognize the limitations of these systems and the fact that there is no accurate method of measuring "average" or "normal" output. We recognize the need for facts and more facts. But the knowledge and instinct of workers and their representatives on what is fair, plus honest negotiations with the union on the wage payment can often provide a more satisfactory solution than simply relying on so-called "scientific studies."

The difficulties that can occur when overzealous engineers do not consider the labor and human factors were shown dramatically in one of the large companies with which my union deals. The productive workers in the main are on an incentive system while the indirect workers in the main are on daywork without production standards to meet.

In the guise of establishing "engineered budgets" an attempt was made throughout the chain to timestudy the dayworkers to establish production standards but without incentive pay. Aside from the question of the legality of the company's action under an existing contract, the upshot of this attempt was to plunge the whole chain into a deep labor-management crisis. It was one contributing cause of a strike of thousands of workers which at this

writing has been going on for weeks.

What the company engineers attempted to do was to establish a "third class" of workers within the plants. These workers would have all the disadvantages of the incentive workers in that they would have a standard to meet. They would also have all the disadvantages of the dayworkers in that they would get no increase in pay for above-standard production. The company would thus have a "one-way" street with the right to discipline workers who were below the standard but with no extra pay for those who exceeded it.

While we have a great many difficulties in dealing with incentive systems, we feel that where work standards are applied workers should be paid for all production over the standard. The development of the "engineered budgets," which could have been handled successfully, has now been placed under a serious cloud. The engineer has lost immeasurably due to the discrediting of his creation.

Certainly an understanding of all the factors involved, including a recognition of the violation of the sense of fair play and justice in the proposal, should have led to the development of a different way to achieve the "engineered budgets." What this suggests in terms of the theme of this article is that the engineer who considers all the human and social implications of his proposals may more likely succeed in the long run.

What we hope is that engineers will become more rather than less involved with labor problems and that they should come to occupy positions of responsibility in this field. The industrial engineering background with its mental discipline, if reinforced with experience and understanding in the social and human problems, can make a fine combination. We would hope, too, that in the textbooks dealing with industrial engineering problems more emphasis would be given to the social and human problems and the necessity of winning the cooperation of labor on the basis of fair play and justice.

Certainly we all know that lying ahead of us is the possibility of a world of great abundance with a high standard for all of our citizens. We have the possibility of so using our great economic abundance to help other nations to raise their living standards.

Engineers are making great advances in improving the methods of production. There is boldness, originality and progressive thinking going into the development of the automation processes.

What we ask for is the same boldness, thinking and originality in the labor field. In our judgment, the man who solves those human, social and economic problems will have a place in history just as great as those who developed the marvels of production. ■

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"Faulty vision costs much more than the price of an accident, it takes a much larger production cut." How can visual inadequacy in plant or office be surveyed and corrected? A comprehensive occupational vision program is presented, covering the plant visual analysis, the job analysis report, the employee vision survey, and the protective and follow-up functions. Examples are given of the results of such vision programs.

Better Eyes For The Job

By James R. Gregg, O.D.
Director of Education
California Optometric Association
Los Angeles, California

CIVILIZATION has lifted the burden from man's back and placed it on his eyes.

Traffic jams, high-speed production, TV screens and atomic energy demand eyes to perform as never before. Seventy million Americans have found it necessary to wear glasses to meet the modern need for precise seeing.

Yet one-third of the nation's working force of sixty-two million people have below-par vision without even knowing it! As a result, America's great potential is weakened—production is hampered, accident tolls increased, visual health is jeopardized, and earning power is slashed.

But this economic waste can be eliminated—and easily. A simple plan, based upon solid proof, can work in any office or factory, with cost far surpassed by savings.

Because of failure to recognize the seriousness of the problem, along with lack of knowledge about vision, an amazingly high percentage of visual defects go undiscovered. Management has not always provided, and labor seldom demanded, an effective occupational vision program.

Optometric scientists believe that technological advances in machinery, along with new engineering methods, have in some ways outstripped the operator's visual performance. Modern eyes drive high-speed equipment, spend hours at a desk, control precision operations—without even being tested for the job!

There are 80,000 disabling eye injuries annually, according to the National Safety Council. Twenty million dollars a year in direct compensation and professional service is the price industry is paying for inadequate eye protection. Not even counted is the pain, misery, and permanent loss of priceless eyesight not measurable in dollars.

Use of protective eyewear would reduce eye injuries to nothing. Still, some plants have no eye safety program. In others, the use of safety goggles is not enforced. Workers themselves are often to blame, refusing to wear the "heavy glasses," taking chances on eye-hazardous jobs.

Even though there has been a great increase in the use of protective eyewear—six million pairs of safety glasses manufactured last year—eye safety programs are hampered by administrative troubles. Proper supervision, worker education, and a system of servicing and adjusting them are necessary to get safety goggles on eyes that need them, and keep them there.

The tragic and expensive loss from eye injuries is dwarfed by a stupendous $460,000,000 annual industrial accident bill in the United States. "I didn't see," is the frequent explanation when a finger is smashed, a foot is cut, a life is lost. There is no way to prove exactly how much faulty eyesight is to blame in such accidents.

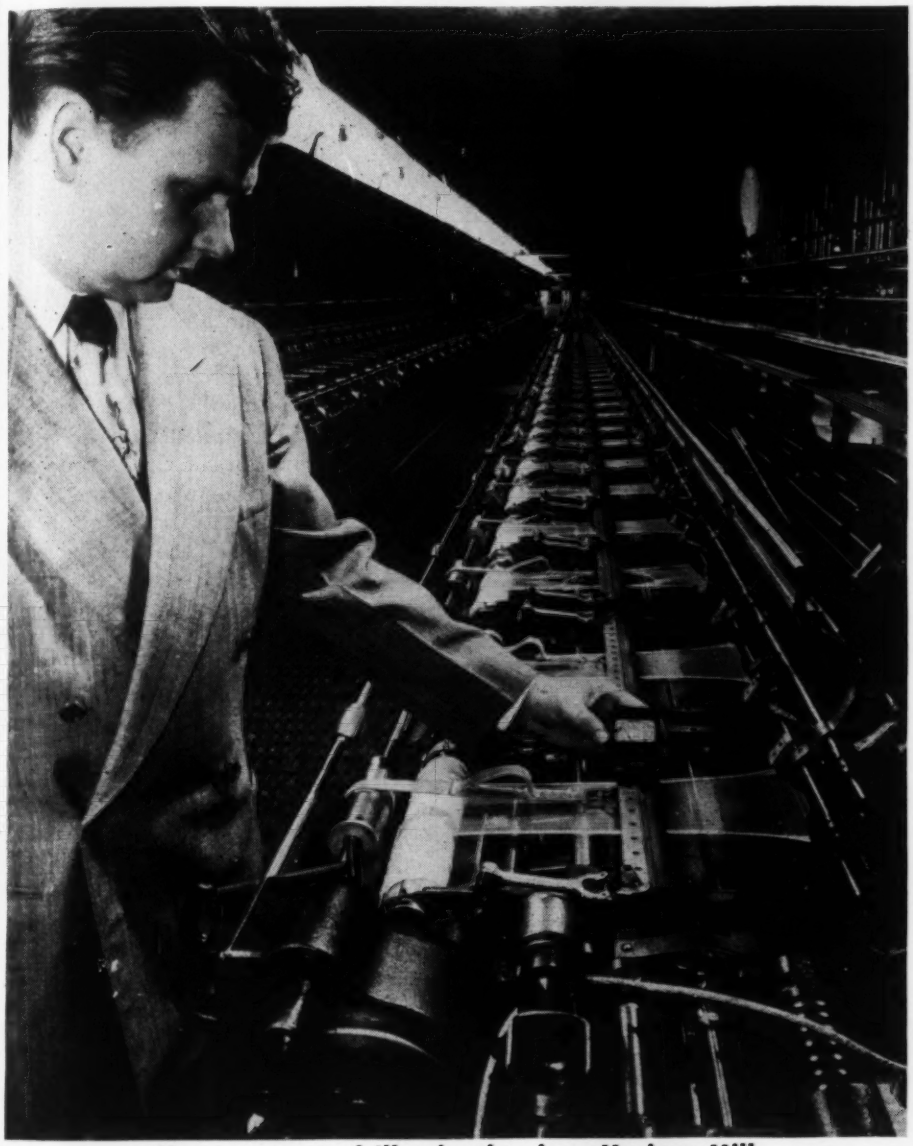
But *does it need proving that blurry vision, aching heads, and tired minds are dangerous?*

A study of 828 experienced workers in twelve different occupations in various industrial concerns found a definite

DR. JAMES R. GREGG

An associate professor of optometry in the Los Angeles College of Optometry, a member of the Eye Advisory Board of the Los Angeles City Schools, director of education of the California Optometric Institute and the Vision Conservation Institute, Dr. Gregg also has his own private practice. He received his B.S. in Business Administration from Ohio State University and his B.S. and Doctorate in Optometry from Los Angeles College of Optometry.

PLANT ANALYSIS



Measurement of Illumination in a Hosiery Mill

relationship between visual skills and accidents. Of the workers whose visual skills met their job requirements, 35% were in the high accident frequency group, while 43% of those with inadequate visual skills were found to have a high accident rate.

This eight percent greater accident rate in the deficient vision group, though statistically significant, doesn't tell the whole story. Similar relationships of vision to safety are found in many plants. But what about the nervous strain, sluggish response, and carelessness produced when eyes function badly? What else depends upon top-quality seeing?

Faulty vision costs much more than the price of an accident. Larger by far is the cut it takes in production. What if top executives could read reports twice as fast, machinists could adjust lathes more accurately, and inspectors made fewer mistakes? What if every worker operated at top visual efficiency?

An electrical supplies manufacturer reported an optimistic 90% of his employees showed work improvements following a sound occupational vision program. Other plants have found from 18% to 50% increase in performance, depending upon the nature of the job and the existing conditions. In one instance, a 37% savings on wastage occurred following correction of employees' visual problems.

Fifty percent of food clerks in one large supermarket chain were found to have unsatisfactory vision, while 19.6% were borderline, as determined by a vision screening test. A sample group of 102 clerks was given "weighing exercises" and work-sample tests which closely duplicated the task of weighing produce at the check stand. It was found that 33% more errors in the weighing exercise, and 21% more on the work-sample were made by checkers with unsatisfactory vision.

The clerks in the sample group were then given refresher training, the work tests were again repeated and errors noted. The refresher course reduced the total errors, but now 47% more errors in weighing and 28% more in the work-sample test were made by the unsatisfactory vision group, as compared to the food clerks with satisfactory visual performance. This recent study, like many before it, shows the close relationship between visual skills and performance on the job.

"I don't know why we waited so long," said a plant manager. "We are convinced our new occupational vision program has paid dividends in better production and fewer errors." 19% greater output, along with high quality, had been the result. The accounting department is the measuring stick for increased visual deficiency. The low cost compared to the value produced can be found right on the books—to say nothing of the positive benefit to the health, and general well-being of personnel.

A comprehensive occupational vision program concerns the work as well as the worker. Vision itself must not only be normal, it must operate in a healthy environment. Eyesight and the conditions under which it performs must both be ideal, if the two are to team together effectively.

Basic to an occupational vision program is the plant analysis. This consists of careful study of the existing physical conditions which influence visual performance. Such things as illumination, color contrast and balance, low visibility areas, glare sources, and general plant layout for better seeing are evaluated, measured, and recorded.

Specifications can be written for minimum seeing standards—light, color, and contrast—for the type of visual task being done. Recommended changes are reported to management. Better work and happier employees can result from more light or a new paint job alone.

The plant analysis serves as the background against which the individual job must be viewed. Even if general seeing conditions are the best, each job has its own special demands upon vision. Once the plant as a whole has been studied

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an individual job analysis is the next step.

The particular visual characteristics of each worker's task should be determined by on-the-job observation by an occupational vision specialist. Working with ruler, light meter, and data sheet in hand, the specialist evaluates the common working distances, the height and position of work surfaces, nature of materials used, viewing angles, eye movements necessary, and any unusual seeing conditions.

The painter must see clearly at arm's length over his head. The draftsman looks all the way to the end of his drawing board. The machinist crowds close to read the scale. The typist glances in three different positions and distances. The mill operator keeps his head tilted to the left. Every job has its own particular demands, and these must be scientifically established for each type of industrial task.

Sore back, aching head, poor records, lost pay, ruined product, or an accident may result if vision doesn't fit the job. The job analysis is necessary to get that proper "fit," it is used to write the "visual specifications" for each occupation. The new employee can be placed in the position for which he is visually suited. The veteran worker can be advised how to have his eyes best cared for to suit the work he does.

The job analysis report is highly useful to the employee himself. Armed with this information, he can tell his vision specialist about his own particular work. With nothing left to chance or guesswork, a prescription for visual care can be tailor-made to adapt vision to job characteristics.

A high percentage of workers, even with vision corrected, do not have glasses which are thoroughly adequate for the work they do—they may be focused for the wrong height or distance. This can be avoided by providing each person with a job analysis sheet. The vision specialist cannot otherwise get such reliable equal work data unless he follows his patient right to his job. "Occupational" lens prescriptions using the job data are accurate.

The most important phase in the occupational vision program is the development of a suitable vision survey. Vision is often neglected if left up to the individual; he doesn't care, or doesn't know that his eyes are handicapping him. Eyes don't always hurt when vision is inadequate. The warning signs are sometimes vague and misunderstood. Fatigue, sleepiness, slight blur, slowing down, and work errors may not be recognized as visual symptoms. So, *some means must be employed to quickly and effectively find the person who needs visual care.*

VISUAL SURVEY METHODS

One method is to have trained plant personnel operate a commercial visual survey device. Well-grounded research provides a background of information for "satisfactory" and "unsatisfactory" ratings on visual performance. These instruments make about a dozen tests of the most significant visual skills, responses can be classified on a profile chart and the individual's status determined automatically. Manufacturers of the screening instruments provide training on their use.

However, all such automatic testing devices will fail some workers with normal vision, and pass others who need help. Many vision screening instruments are collecting dust in the store room because of these troublesome problems. The percentage is small, but some error is inherent in any "simple" test of a highly complex and psychological function like vision. This does not mean that screening devices are no good. They serve a very useful purpose, but the operator must know how to use the test findings.

Results of visual survey tests need to be evaluated with every bit of experience and judgment possible, in order to minimize the natural difficulties. Along with this goes careful instruction to those being tested. General education

about the *purpose*, and the *nature*, of the "vision screening test" is always recommended. The program is doomed to failure if every worker, from bottom to top, does not cooperate.

Visual survey data are even better analyzed by a visual consultant—a specialist retained by the company. The consultant can supervise the plant and job analysis, as well as conduct the vision survey. A technician may operate the vision screening instrument, with the specialist called in to go over the results.

20th Century Fox Studio has a visual survey program supervised by an optometric consultant. The plan, sponsored by the employees' Studio Club, is entirely voluntary. The club manager and developer of the idea finds members are very enthusiastic. Many discovered for the first time they needed visual care, with work and eye comfort greatly improved as a result.

The vision consultant at 20th Century Fox studies each employee on his job in the studio and prepares a job-study sheet which is kept on file by the Studio Club. Workers who wish to do so are given a visual survey test right in the studio. A confidential report is supplied to the individual, he then seeks the professional care of his choice, taking a job analysis sheet with him.

COMPLETE VISION PROGRAMS

The use of a visual consultant solves many difficulties of an occupational vision program. It can be adapted to the special needs of any situation—factory, office, or work crew. It can be simple or extensive as needs demand. It can be operated by employer or employees.

California recently developed a special plan to meet the diverse conditions in all types of industry. The California Optometrists Occupational Vision Services offers a complete occupational vision program. This is known by thousands of Californians for its success in visual surveys. It has a staff of optometrists specially trained in occupational vision.

A team of vision specialists goes into a plant and performs all of the necessary services of plant analysis, job study, and vision surveying. Accurate findings, complete reporting and professional consultations with the individual right at the time he takes the screening test, are possible with trained specialists doing the work.

JOB ANALYSIS

Calculation of Working Distance from Eye to Work

Such a "team" consists of three men. The survey is done in suitable space in the plant on a production line basis. The first operator examines for pathology, measures extent of the visual fields, takes the visual acuity for distant, and checks accuracy of eye fixations. At the second station, eye-muscle balance at near and far, and near acuity are tested. The final station consists of approximating the refraction of the eye with the retinascope, and taking a simple case history with a check-off system. The average time per worker is seven minutes.

One company of five hundred employees was particularly pleased with the results of such a survey. The personnel director wrote, "A number of employees reported less fatigue and nervousness after a day at work, once vision was corrected. There was a boost in employee morale and general attitude when it was learned the company would provide this service for them."

Whenever people work and use their eyes—those eyes should be provided with a maximum seeing environment, and no worker should be handicapped with "get by" vision. For every industry or business, large or small, there is a sound and economical occupational vision program—whether it be a company operated visual screening device, the use of a vision consultant, or a plan like the California Optometrists Occupational Vision Program.

When industry has adequate occupational vision programs, no longer will one out of every three workers have visual performance below the standards of his job. ■

Pointing up our hospitals' financial and personnel problems, the authors demonstrate that hospital administrations are in a very advantageous position to use scientific management principles because of the basic high motivation of their employees and the constant capacity utilization of their facilities. They discuss hospital administration areas in which improvements can be made, and recommended the development of people skilled in both scientific management and the solution of hospital problems, indicating that S.A.M.'s civic affairs work has been an important step in this direction.

Scientific Management In Hospital Administration

By
V. Donald Schoeller
and
G. Jay Anyon

V. DONALD SCHOELLER, Director of the Taylor Management Laboratory at the Wharton School, also directs its Annual Refresher Conference on Work Simplification and Work Measurement in Shop and Office. He has done much scientific management work with hospitals, and has conducted lectures and conferences as management improvement for industry and government in many foreign countries. Prior to his going to Wharton School in 1947, he held industrial engineering and management positions with American Home Products, Western Electric Company, and Bendix Aviation Company. He is a member of S.A.M., A.S.M.E., and the American Arbitration Association.

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THE hospital *business*, if it can be so termed, is said to be America's fifth largest industry. In no other business is there such a volume of paperwork and detailed record-keeping in connection with its clientele. In no other business do there still exist more methods and systems that have been outmoded and changed long since in other businesses.

Every day the business and engineering schools turn out graduates who take their places in factories, processing industries, banks, insurance companies and government where they apply the principles of scientific management to all types of analyses. Yet frequently the question comes up why hospitals have not begun to concentrate on better managerial techniques. The answer is that there is much good work being done,[1] but only recently, and that the people who have concentrated upon efficient production of mechanical gadgets have ignored hospitals until the present time.

Only when management personnel become sick and are forced to go to a hospital do they begin to look around and say, "Why?" A famous industrialist remarked that in his opinion nursing service has not been improved since the days of Florence Nightingale. The hue and cry of 1955 is that there is a shortage of nurses. An article entitled, "What Has Happened to our Nurses?"[2] complained of a chronic shortage of nurses and a deterioration of nursing care. Costs of hospital care are rising at a phenomenal rate and construction costs of new hospitals have gone sky high. All this leads to the type of low comedy expressed by a famous comedian recently when he said, "I can't afford to be sick." We could easily reach a hopeless conclusion if we were defeatists.

Many hospital administrators and others concerned with hospital administration have expressed the belief that the so-called "principles of scientific management" that apply almost universally in industrial establishments do not generally apply in hospital situations because of the uniqueness of hospital activities. In general, hospitals are non-

[1] *Reviews of such work are presented in "Hospitals Are Everybody's Business," by Elsie McCormick,* The American Mercury *and* Reader's Digest, *September,* 1955, *and in "Scientific Management Enters Civic Affairs," by George M. Goettelman,* Advanced Management, *September,* 1955.

[2] *Nov.* 15 *and Nov.* 22, 1954 *issues of* The American Weekly.

profit institutions. They are devoted almost entirely to service activities and concern themselves with patient care. Hospitals do not consider themselves in the same category as establishments turning out industrial products or offering economic services on a profit basis.

TRANSITIONAL STAGES

This is not a new concept. It has plagued those attempting to introduce scientific management in all phases of industrial and clerical activity since the first days of Frederick Winslow Taylor. If we trace the historical development of scientific management and its techniques, we find that the first installations generally took place in highly repetitive mechanical operations. The next transitional step was to job shop conditions, then to office and clerical activities, and finally to the household in the design of kitchens and home management.

Hospital management, therefore, is one additional step in the long chain of applications which have been successfully completed. Experience has shown that a universal set of concepts has been developed over the years. These concepts have been proven by their successful application to many different types of analyses. The economic phases of scientific management have been enlarged to include branches in the administrative, engineering, anatomical, physiological and psychological functions of management.

The best approach is to identify the universal concepts and then see how they can be applied to hospital management. It would be difficult for anyone to deny the basic ideas involved in the function of management. Regardless of the organization involved, management must perform certain basic functions.

Management must provide, maintain, and effectively use the necessary force of qualified employees, the equipment and facilities peculiar to the enterprise, and the necessary supplies, materials and services involved in a going concern. Also, management must provide and maintain safe and sanitary working conditions. It must establish and maintain equitable compensation procedures, and practices for the organization to perform its necessary daily activities. It is necessary for management to establish, determine and to enforce, in compliance with the required standards controls, instructions and specifications involved in the activity of a going organization. Management must develop and improve whatever necessary products or services are involved. It must plan and direct the operation in a manner that coordinates all the various and related activities directed toward its purpose. It is necessary for management to be able to supply those goods and services sought by customers. Not least, but last on the list, is the problem of managing, controlling and protecting the assets, finances and accounts of the going concern, whatever its nature may be.

It is in the fulfillment of these particular chores, duties and functions that the concept of scientific management makes its particular contribution.

No management, whether it be an industrial organization, a fraternal organization, or a hospital, can default in the proper performance of any of these functions without disastrous results. It is through a study of the successful application of these functions in other organizations that hospital administration in particular can benefit the most from designing an approach to its own problem areas.

NOT AN EFFICIENCY DEVICE

Every successful application of the scientific management philosophy and techniques has proven over and over again the validity of the statement made by Frederick Winslow Taylor in 1914: "Scientific management is not an efficiency device, not a device of any kind for securing efficiency; nor is it any bunch or group of efficiency devices. It is not a new system of figuring costs; it is not a piecework system! it is not a bonus system; it is not a premium system; it is no scheme for paying men; it is not holding a stopwatch on a man and writing things down about him; it is not time study; it is not motion study nor an analysis of the movement of men; it is not the printing or ruling and unloading of a ton or two of blanks on a set of men, and saying 'Here's your system, go use it.' It is not divided foremanship or functional foremanship; it is not any of the devices which the average man calls to mind when scientific management is spoken of . . . I believe in them; but what I am emphasizing is that these devices in whole, or in part, are not scientific management; they are useful adjuncts to scientific management. Now, in its essence, scientific management involves a complete mental revolution on the part of the working man . . . and it involves the equally complete mental revolution on the part of those on management's side. . . ."

THE PROPER PERSPECTIVE

It is well to remember that Frederick Winslow Taylor's caution was well taken, because to this day we can generally accept the statement by Dr. Harlow S. Person at the 8th International Management Congress that, "Generally, throughout all areas of management, including industry, there is absence of an overall perspective and of a comprehension of scientific management as an integrated whole. . . . The interest has been focused on mechanisms and devices . . . specialization in mechanisms and phases have become dominant. . . ."

With this warning there can be no discussion of the prerequisites for the proper introduction of scientific management to any institution without the overall review and establishment of the philosophy to guide such an installation.

It is the popular approach in the present day to talk about "Work Simplification in Hospitals" and such things as the application of work measurement and ratio delay studies to specific aspects of hospital administration and especially so with relation to nursing activities and patient care. We, therefore, can see that the total application of scientific management has not yet reached into hospital administration. Certain of the techniques and mechanisms have been applied and tried for a number of years. In fact, if we trace back through history we find that Dr. Lillian Gilbreth has made studies in patient care improvement and in convalescence of cardiac cases, as well as rehabilitation, for many years. Further, studies in surgical nursing and in operating room efficiency have been made by Dr. Ralph Barnes and others for some time. Minor applications of the total area of scientific management have been extremely successful. The publicity about work simplification and its popularity in hospitals should point the way to a greater emphasis upon application of the overall principles to hospital administration.

The greatest danger lies in the very weakness of single techniques being considered so important that they constitute almost the whole of the application to hospital administration. Even they will lose their small contribution over time if they are not integrated into the overall application of the entire set of concepts. Looking at this basic need

for an overall view, we must come to the conclusion that a hospital is in reality a going concern, in the same sense as any other going concern whether it be economic, social, or non-profit. A hospital has a mission to perform, a set of objectives to pursue, a set of customers to satisfy, and a place in the community which it must maintain. In order to fulfill these objectives there must be a properly related group of men in jobs in pursuit of their selected mission and objectives. What is the nature of this overall objective and point of view? First, the hospital must be recognized as a service organization. To that extent it does not differ from any other service organization in any other aspect of our economy or society. The hospital serves customers, or patients. These patients have certain needs. These needs have to be identified in what could easily be called product specifications or service specifications.

Referring to those who say that hospitals are different because they deal with patients, we must recognize the fact that these patients are in reality customers and as customers do have specific needs and requirements, like any customer of any industrial organization.

CONSTANT HOSPITAL FACTORS

What are those specifications and needs? Are they different for each individual patient as some people would claim? We cannot deny individual differences but we can point out that every patient has certain basic requirements regardless of the type of ailment or reason for admission to a hospital. And just as there are certain basic elements and interchangeable parts to machines, there are certain basic needs, requirements, and specifications for each patient irrespective of what reason there is for his or her admission.

To that extent there are certain identifiable and controllable elements in the entire set of functions of a hospital. Even in a highly repetitive mass production situation in an industrial establishment there are constant and variable elements. It is these elements that are available to manipulation in the hospital, just as in the industrial situation the variable elements present a range within which analysis can be properly used. In all situations there is that range of possibilities within which special circumstances may arise which must be handled by judgment as they occur. In

NATIONAL MEETING DATES
1956

January 28, 1956 . . . Executive Committee
April 28, 1956 . . . . . Board of Directors
June 23, 1956 . . . . . Executive Committee
June 23, 1956 . . . . . Board of Directors

that respect, hospitals do not differ from any industrial establishment.

One of the peculiarities of the present day hospital situation is the relative small capacity hospitals have to meet the needs of those requiring hospital care. Because of this relatively short supply of hospital beds and hospital facilities hospitals are frequently working at 100 percent of their capacity. To that extent fluctuation and uncertainty are almost eliminated and even those things that could be called variables are reduced to a minimum because in every hospital the established facilities are used to the fullest extent almost constantly.

We can go so far as to indicate that this situation gives strength to the application of scientific management in hospitals. For it is in the industrial situation that uncertainty of the future introduces a variability and fluctuation. As a result of the constant demand upon the hospital that uncertainty disappears.

With the possibility of prediction of capacity utilization and the constancy of certain elements involved in patient admission and care, we can see the basis for determination of predictions and projections of the installation of the operating standard conditions that are within the range of possibility in hospitals, and which can serve to eliminate the statement that in hospitals "Our problem is different." This becomes our first step in the mental revolution to be achieved mentioned in Taylor's statement.

CAPACITY USE HELPFUL

Another argument posed by those who feel hospital administration is different is the fact that the hospital is not generally a profit-making organization and as such the human motivations and the drive for profits do not exist to the same extent as in an industrial organization. First of all, let us recognize the fact that hospitals are organizations working with limited resources in an exchange economy. They have the problem of nurturing their capital just as a profit-making organization does. Secondly, where profit may be the first consideration of an industrial organization, the first consideration of a hospital is more healthy people in the social structure than are possible with a minimum capital investment.

In order to properly allocate its capital resources a hospital must utilize the same techniques as an industrial organization, such as work measurement, budgetary control, planning and organization, control of operations, space utilization and control, and where the profit and loss statement in the end is the final and ultimate measurement of the success of the business organization, in the hospital the number of patients per dollar invested is in reality a profit and loss statement. The nuturing tools of capital utilization are identical in both instances.

UNIQUE MOTIVATION

The argument has been raised many times that hospitals deal with human beings, and not inanimate mechanical objects, and therefore, hospital problems are different. The fact that a life may be at stake brings us to the problem of analyzing the cost of failure and the incentives and drives that the people must have to fulfill their mission specifically as part of a hospital organization. It has been said that this kind of motivation does not exist in business organizations. But it has been proven that the running of an organization depends upon the attitudes and motivations of the people who are working within that organization.

If we analyze typical hospitals versus business organizations we find that most individuals working in hospitals are dedicated people, have chosen this particular career because of personality complexes and satisfactions so that their motivation and drive normally are associated with excellent patient care. We can say that hospitals are already in the unique position of having already preselected the kind of people who have the proper motivation. To the average industrial organization this would seem a distinct advantage, giving them a cohesive and motivated labor force which is unusual in the average business establishment. From the viewpoint of motiva-

tion, in the hospital situation the problem is not only similar to that of business, but hospitals have a distinct advantage in the application of scientific management techniques.

A further point that can be raised in this situation is that when operating conditions are so confused and nonstandardized and unnecessary tasks have to be performed by these dedicated people, their tremendous motivation can be destroyed by the very ineffectiveness of the organization. The breakdown of morale where it occurs is usually the outgrowth of frustration and inability of people to perform their dedicated task as a result of confused organization. This is a dangerous situation that requires the immediate installation of scientific management to its fullest extent in order to preserve the human motivation and build upon it to achieve a better organization in the future.

On this very premise a whole series of incentives of the non-financial variety can be built, and even on a gain-sharing basis there may be financial or merit applications. Here is the most natural basis upon which the individual drives and ambitions can best be satisfied and increase the effectiveness of the overall organization. It cannot be said that hospital problems are different from business organizations, but it can be said that hospital organizations stand a better chance of successful application of scientific management techniques than many business organizations. They have more of the prerequisites built into the pattern of the organization than the average business organization can ever hope to have.

A DANGEROUS SITUATION

The conclusion must be formed that the basic problem is the mental attitude in the administrative field in hospitals. Once the prejudices creating the idea that we are "different" have vanished all of the apparent point of application and necessary prerequisites for scientific management become apparent. On that basis, it is not necessary to recapitulate this study or that study to prove the value of scientific management to hospital administration.

Let us look at some of the general areas in which improvements can be effected by individuals who have cleared themselves of this mental block of feeling that hospital administration is "different." First, in the executive and managerial administrative processes, or the areas of planning organization and controlling, we have the basic kit of tools of the principles of organization. A good start would be a well conducted organizational study and managerial audit, to identify the best changes in organization to improve planning, organizing, and controlling.

SPEARHEADING THE PROGRAM

There are three levels at which this must be done: First, on the overall major policy level; second, on the administrative level; and third, at the detail level. Mental revolutions must be accomplished at all three levels in order to achieve the maximum results. The problem resolves itself into who will assume the duties of conducting not only the organizational studies and managerial audits, but also the application and integration of all the techniques of scientific management down through the entire organization. The problem is really one of selection, training and placement of those who will contribute to the proper installation of the entire concept of scientific management. To load additional duties upon existing personnel in hospital administration would not only be inadequate, but also would be fraught with the danger of causing the ultimate failure of the entire program. Most people in hospital administration today are already greatly overburdened with many duties. From a business organization point of view, it it necessary to staff such activities with people who are completely devoted to this task and to this task alone.

Because of the nature of hospital administration with its peculiarities, specialization would be required undoubtedly from the very beginning in order to establish this mental revolution at all levels and to make it part of the entire administrative process. This only further complicates the problem of finding the proper individuals to spearhead the program of installation of scientific management. Certainly, there are few people available today who have had the experience with the human relations problems that exist in hospitals and to attempt to lift techniques bodily from industrial organizations and deposit them in hospitals is fraught with great danger. This has been one of the foundation stones upon which those who argue "our problem is different" have based their claims, because there have been numerous instances where such conditions have existed and the attempt to place already established systems in hospitals have failed.

MOVING?
If so, send us your new address.

COMBINING THE SKILLS

The reason for this failure is the lack of specialization and the attempt to develop a "package" deal. Remembering our basic premise that we are discussing the concepts and principles of scientific management, rather than the specific application of techniques, we come to the conclusion that modifications of the techniques are necessary in order to achieve success in hospital administration. It is necessary to develop specialized applications and a cadre of people who are schooled both in hospital administration and in scientific management and such a result is not a matter of a short period of time. We are at the point today, where the development of people is the critical issue determining whether or not scientific management will ever be successfully introduced in hospitals. These may be people who are schooled in the techniques of scientific management who must then acclimate themselves to the peculiarities of hospital problems and installations, or they may be people who already are adept at the solution of hospital problems who must become schooled in the techniques of scientific management. In either case, it requires an individual devoted to the specific problems of hospital administration and the method would be to modify the individual techniques of scientific management to fit the peculiar case involved in hospital administration.

To produce such people will take the combined and cooperative efforts of hospital administration and those in scientific management. Under the Society for Advancement of Management's Civic Affairs Program the cooperative ventures of the various Society chapters in establishing hospital work simplification and management committees have been an important step in this direction.[3] They indicate an achievable objective and a manageable task in the future and improved application of scientific management to hospital administration. ■

[3] *For further information about the Society's work with hospitals, write George M. Goettelman, Vice President of Civic Affairs, Society for Advancement of Management, 74 Fifth Avenue, New York 11, N.Y.*

New Management Writing . . .

SOME DIMENSIONS OF COMPANY-UNION DOWNWARD COMMUNICATION

By William H. Keown. Publisher, Bureau of Business Research and Service, University of Wisconsin, Madison, Wisconsin, 143 pp., $1.15.

PROBABLY no subject in the whole ramified field of industrial relations has had more attention in the last five years than has "communications." In this connection, information has probably not kept pace with interest. Professor Keown appears to have made a noble effort to have quickened this pace. He has searched the field in the thorough manner of a trained researcher. In fact, the first section of the study is concerned primarily with a discussion of the findings of the experts. This is good for the student of the subject and should serve a worth-while purpose as a textbook. As a practical operating tool, however, such quotations as the one which follows might cause some wrinkled brows in the busy business community:

"*It is the fixity and specificity of the questions which permit the quantification of the responses.*"

Such quotations can be justified, however, on the basis that they are concerned with methods of investigation—in this instance the "depth interview" technique. Some consideration should also be given to the fact that this monograph is a revision of an original doctoral thesis and in this respect is justified in academic departure from the practical.

Deeper penetration completely justifies the book's existence and placement in the "how to do" section of every business or industrial library. The second section deals with the preparation of a case study in the meat packing industry—a type of attitude survey confined to the communications problem, but of necessity developing information of deep importance in many other areas of industrial relations. One of the most important of these areas is the material concerning that important point of contact—the foreman. The union's point of contact, the steward, is given some, although not equal, treatment. This part of the study alone stands as an important contribution to the field.

The next section deals with the findings of the survey. They are meaningful findings. They deal with communications within both the union and the company. "The communication needs which the employee-members wish to have satisfied by the union are less extensive, both as to persons and as to topics, than the needs to be satisfied by the company," says Professor Keown. "Although the plant and union organizations share the same rank-and-file constituency, certain barriers to communications between union leaders and the members were noted which do not appear to impede management-employee communications." Hence no doubt is left that the major responsibility in this as in many other fields rests primarily with management. This is a part of the sharing of almost everything but responsibility.

Much of the treatment of the problem of union communications is unique. It is one of the rare situations in which this has been done. The opportunity therefore to compare the communication problem of both the company and the union makes this study a significant contribution, not only in communications but also in labor relations. It also makes clear that there are some internal organizational problems faced by unions which are not unlike those which management itself must solve.

Even though the original approach to this study was an academic one, the author has gone to great pains to carefully exhibit the forms and mechanics used in the study. He has also graphically set forth his findings in a way designed to implement their practical usage. They should be of interest and assistance to a variety of organizations where an examination of communications is current or contemplated. They should be of special interest to companies in the meat packing industry.

The monograph is current and it's inexpensive. Buy it and read with profit the detached observations of a trained observer.

Lowell F. Johnson
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American Home Products Corporation
New York, New York

OCCUPATIONAL MOBILITY IN AMERICAN BUSINESS AND INDUSTRY

Warner, W. Lloyd and Abegglen, James C., Minneapolis, University of Minnesota Press, 1955, 315 pp., $5.50.

BIG BUSINESS LEADERS IN AMERICA

Warner, W. Lloyd and Abegglen, James C., New York, Harper and Brothers, 243 pp., $3.75.

WHAT are the factors determining whether a man will rise to a position of "top management" in the business world? Must he be born into the "right" family? Must he possess a family background of wealth and power? Must he have a college degree? Must he marry the boss's daughter? What are his chances of rising to the top if he is foreign born? If he is from the farm? If he is from Opelika, Alabama? If his father is a laborer? A white-collar worker? A professional man? A business owner or executive? In short, what are the factors influencing occupational mobility in the business world? The two volumes noted above, both by Professors Warner and Abegglen of the University of Chicago, deal with these and other questions in a most interesting and authoritative fashion.

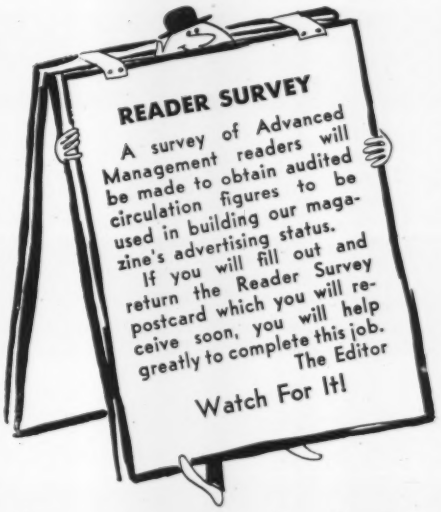
The second volume is a "crew-cut" version of the first, as indicated by its less academic title. The first volume contains 132 detailed tables in the text and 77 tables in the appendix; the second volume contains seven tables and eleven charts. The first volume is not only well annotated, but includes a selected bibliography of the literature on status, occupations, and occupational mobility, as well as a detailed statement of the methods and techniques used in the study of more than 8,000 "top management" men in the United States. The second, or "popular," presentation contains only a brief note on the research study itself. The first volume will have particular appeal in academic circles, especially among sociologists; the second volume will have more appeal to the man who is the subject of the research—the American businessman. Together, they give us a most absorbing picture of American business leadership—how they climbed the ladder to success, and the opportunities of others doing the same.

From what economic levels did our present business leadership come? Is the Horatio Alger rags-to-riches story a reality in American economic life? Is the opportunity for movement up the ladder increasing or decreasing? The research of Warner and Abegglen provides us with some authoritative and heartening answers. In the opinion of this reviewer, the single most important contribution of this research is its encouraging verification of *increasing* class mobility in the business world. This is particularly significant in view of some opinion that the *rate* of mobility was decreasing rather than increasing.

Of the more than 8,000 top businessmen studied, 52% could be said to have been "born to business"—that is, they were the sons of owners of business enterprises, or were the sons of business executives or managers. The remaining 48% moved to the top in the business world from other economic levels: 14% were sons of professional men; 15% were sons of laborers; 9% were sons of farmers; 8% were sons of white-collar workers; and the remaining 2% came from other non-business backgrounds. While it is obviously true that a man's social and economic background is related to his prospects in the business world, it is equally—and more significantly—true that the American system of rank is not a closed one, with the highest positions reserved only for those of "proper" birth.

Of even greater significance is the fact that business leadership today includes more men from the lower-level occupations than it did a generation ago. This conclusion is reached by a detailed comparison of the present research with the landmark study in 1928 by F. W. Taussig and C. S. Joslyn of Harvard University. Professors Warner and Abegglen planned their research in 1952 in order to provide comparability with the study in 1928. In both periods, most of the top business leaders were the sons of business men, but the proportion was significantly smaller in 1952 than in 1928. In short, the American business system is recruiting a larger proportion of its leadership from labor and white-collar backgrounds.

The factor of education appears to be increasingly important in achieving business leadership. In 1928, 32% of our business leaders were college graduates; in 1952, 57%. Of course the level of education for the whole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A survey of Advanced Management readers will be made to obtain audited circulation figures to be used in building our magazine's advertising status.
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The Editor
Watch For It!

population has increased greatly during this period, but the level of education among business leaders has exceeded the general increase by significant proportions. The proportion of college graduates among the business elite almost doubled between 1928 and 1952. In the general population less than 10% are college graduates; in positions of business leadership, 57% are college graduates. Another way of emphasizing the importance of the education factor is to look at the bottom of the scale: in 1928 about 30% of our top business leaders had less than a high school education; in 1952, only about 5% were in this category.

An examination of the *kind* of education received by our business leaders emphasizes the importance of the liberal arts. In a sample of 505 executives with college degrees, only 68 received specialized Bachelors degrees, primarily in business administration; the remainder received "general" degrees in arts and sciences. Business leadership increasingly requires broad-gauged, disciplined thinking—a type of mind that is frequently a product of the study of history, literature, and philosophy. At the same time, business leadership requires specific, technical training which, ideally, should rest firmly upon the discipline of the liberal arts.

A portrait of the American businessman would be incomplete without an examination of his family life and its relation to a successful career. What kind of women do business leaders marry? Do they marry above or below their occupational origins? What kind of women make successful wives for business leaders? The authors devote two interesting chapters to these questions. It is not surprising when they conclude that business leaders "tend to marry a higher proportion of women of their own occupational background than any other, but they also marry at all other levels, usually in greater proportions at levels nearer to them than at a distance." The sons of laborers are most likely to marry women of the same background as their own; the sons of business owners and executives are next most likely to marry from their own economic status; and the sons of white-collar workers are least likely to marry women of their own class. The son of a white-collar worker is less contained in matters of marriage: he marries into other classes as much as in his own. This is particularly true if he has had the advantage of a college education.

To complete the profile of top business leaders, the authors examine at length such questions as: From what part of the country did our business leaders come? Did they come from the country, the small town, or the large city? After they left home, where did they go? Are positions of business leadership accessible to the foreign-born? Does higher education reduce the time it takes to arrive at the top? How fast did our present leadership move in getting to the top—how long did it take from the first occupation? In what industries are there the best opportunities of moving to the top? In what industries the least opportunity? Obviously, space limitations will not permit the luxury of summarizing all of the significant findings. Suffice it to say, however, that none of the findings detract from what this reviewer considers the most significant paragraph in the two volumes:

"In the longest view possible, all evidence indicates that in American society opportunity continues to be realized, and increasingly so. Rather than closing in on men of low birth, holding them to the positions into which they were born, our social system continues to make it possible for men from all levels to move into elite positions in commerce and industry." This fresh and heartening conclusion, based upon responsible and authoritative research, stands in sharp contrast with the gloomy prediction of Marx that our social order would inevitably divide itself into two diametrically opposed and warring camps: the oppressed and the oppressors. ■

Robert H. Laws
Economics Program Director
Society for Advancement
of Management

FEBRUARY CHAPTER ACTIVITIES

CHAPTER	SUBJECT	SPEAKER	TITLE	PLACE	DATE
Alabama	Management of the Factory of the Future	Matthew J. Murphy	Editor, Factory Management and Maintenance	Tutwiler Hotel	14
Baltimore	Correlating Sales and Production for Better Profit	Presentation and Panel Discussion			
Binghamton	The Ford Supplemental Unemployment Benefit Plan	John J. Demott	Industrial Relations Analysis, Ford Motor Company	Arlington Hotel	8
Boston	How To Run A Meeting	Wallace Strathern	Director of Training, Eastern Gas & Fuel Associates	Faculty Club, Soal Bldg., M.I.T.	2
Bridgeport	Management Abroad and in the U.S.	Saul Silverstein	Roger Company	Algonquin Club	7
Chicago	Financial Planning for Expanding Business	Robert Mason	Merrill Lynch, Pierce, Fenner & Beane	Furniture Club of America	28
	How To Establish Incentive Standards Using Work Sampling	C. L. Stake	Supr. Industrial Engineer, Johns-Manville	Furniture Club of America	14
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Cleveland	What Is Fair Today?	Ralph Presgrave	V.P., J. D. Woods & Gordon, Ltd., Toronto, Canada	Lake Shore Country Club	6
Columbus	Communications — Time and Staff Relationship	Donald E. Kramer, Chairman		Hotel Fort Hayes	9
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				G. E. Blanket Factory	28
Greenville	Linear Programming	R. O. Ferguson	Methods Engineering Council, Pittsburgh, Pa.	Elks Club	8
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	Cost Aspects of Materials Handling	Panel Discussion		DeWitt Clinton Hotel	16
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Lancaster	Organization Theory: Help or Hindrance?	Douglas M. McGregor	Professor, M.I.T.	Hotel Brunswick	21
Madison	Management Problems and Trends in Retailing	Henry Darff	V.P., Hartmann Luggage Co.		8
Milwaukee	Annual Productivity Increases	Jesse Blackmore	Dir. of Public Relations, Gen'l Motors Corp.	E.S.M. Building	9
Montreal	Mechanizing Data Processing for Speedy Management	Graham Clark	I.B.M. Corp., New York	Ritz-Carlton Hotel	8
Nashville	Development and Training of Supervisors	E. L. Stackfleth	Dir. of Personnel, Coleman Co., Wichita, Kansas	Andrew Jackson Hotel	9
New Haven	Why Men Work — How To Motivate	Dr. F. F. Bradshaw	National President, S.A.M.	Colonial House	23
New Orleans	Increasing Returns on Investment	John Wright	International Harvester Co.	Roosevelt Hotel	24
N.E. Penna.	The Industrial Team	W. D. Fowlkes	Asst. Secretary, International Textbook Co.	Hotel Sterling	6
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